

Amendment/Response

Reply to Office Action of July 14, 2003

REMARKS/DISCUSSION OF ISSUES

The Examiner's objection to the drawings has been noted. Enclosed herewith is a copy of the drawings which indicate, in red, the changes suggested by the Examiner. Subject to the approval of the Examiner, these changes will be made in accordance with the red markings.

Claims 1-11 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner's comments and suggestions concerning this rejection have been duly noted and are sincerely appreciated. In accordance with the Examiner's suggestion, Independent Claim 1, from which claims 2-6 depend, and Independent Claim 7, from which Claims 8-11 depend, have been amended to include the phrase "totally internally reflecting" in lieu of the recited "confining" phrase. In view of this Amendment, it is respectfully submitted that this rejection has been obviated.

Referring now to the rejection of the claims on their merits, Claims 1, 4 and 5-7 have been rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's admitted prior art. By this Amendment, Independent Claims 1 and 7 have been modified to set forth that the polarizing beam splitter prism is spaced out of contact from the turning prism and $\frac{1}{2}$ wave retarder (Claim 1) and that the turning prism is spaced from and out of contact with the polarizing beam splitter (Claim 7) to more particularly point out and distinctly claim the subject matter of Applicant's invention from that which Applicant has identified as prior art. Accordingly, it is believed that these claims, as amended, are not anticipated by the admitted prior art.

Referring to the rejection of Claims 4, 5 and 6, these claims, in view of their dependency from Claim 1, are believed to be patentably distinguishable from the admitted prior art because of this dependency.

Referring now to the rejections under 35 U.S.C. 103, Claims 8 and 11 have been rejected as being unpatentable over Applicant's admitted prior art. It is respectfully submitted that the amendment to Independent Claims 1 and 7 discussed above, from which Claims 8 and 11 respectively depend, patentably distinguishes these claims from the admitted prior art. Reconsideration is requested.

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Claims 2, 3, 9 and 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of K. C. Ho et al., U.S. Patent No. 6,512,502, "Light Valve Projection System in Which Red, Green and Blue Image Subpixels are Projected From Two Lightvalves and Recombined Using Total Reflection Prisms". This rejection is, respectfully, traversed. It is the position of the Official Action that Applicant's admitted prior discloses all of the elements of Claim 1 except for the achievement of total internal reflection (TIR) which is achieved by providing a first air gap between parallel, opposing surfaces of the polarizing beam splitter and the turning prism, and a second air gap between parallel, opposing surfaces of said polarizing beam splitter and the ½ waiver retarder (referring to Claims 2 and 9). The Office Action contends that K.C. Ho et al. discloses a first air gap between parallel, opposing surfaces of beam splitter 300b and a prism 300c as illustrated in Fig. 8 and disclosed at column 7, lines 1-9. Based upon this disclosure the Office Action contends that it would have been obvious to one of ordinary skill in the art to have modified the method of Applicant's admitted prior art at the time the invention was made to provide such air gaps. It is further contended with respect to Claims 3 and 10 that K.C. Ho et al. teaches one skilled in the art that a low refractive index optical cement could be provided between such opposing surfaces instead of an air gap, because use of such an optical cement is alleged to be old and well-known in the optical art for insuring both that TIR takes place and unwanted dust does not collect between the adjacent elements. This rejection is also, respectfully, traversed.

While there are elements of Applicant's invention which are similar to components of the K.C. Ho et al. reference, it is not enough that references might be capable of being combined, but in order to establish a *prima facie* case of obviousness, some objective teaching in the cited prior art or knowledge generally available to one of ordinary skill in the art must be shown that would lead that individual to combine the relevant teachings of the references. See In re Fine, 837 F. 2d 1071, 1074, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988). In the cited K.C. Ho et al. reference there is no disclosure or teaching of minimizing the size of a light valve while maintaining efficient light collection such as by matching the dimensions of the input beam "waist". Applicant's invention achieves TIR by providing air gaps between opposing surfaces of the optical components, or by joining the surfaces with low refractive index optical cement, and in this

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manner results in a polarization conversion which increases the geometrical extent by no more than a factor of two, which is the theoretical limit.

The K.C. Ho et al. patent contains no disclosure or teachings addressing this problem, and the force of logic compels the conclusion that a prior art reference which is silent as to the existence of a problem, cannot teach its solution.

It is respectfully submitted that the Official Action has succumbed to the lure of prohibited hind sight reconstruction. The Official Action has returned to the prior art gathering bits and pieces in an attempt to reconstruct Applicant's invention, based not on a full and fair consideration of the prior art but using Applicant's specification as a blue print. Reconsideration is requested.

In view of the foregoing, Applicants respectfully request that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application in condition for allowance. If any points remain in issue that may be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact Mr. Eric M. Bram (not the undersigned) at (914) 333-9635.

Respectfully submitted,



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